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ABSTRACT

The goal of the doctoral dissertation summarized here was to find an equitable school finance plan that applied the same tax rate in all districts and resulted in the smallest variance in the expenditure per weighted pupil unit (WPU) between districts in Arizona for the 1971-72 school year. Six finance plans were developed for analysis and were compared to the 1971-72 finance plan. All the operating districts were subjected to each of the plans and a dollar amount per WPU was computed for each district. Two analyses were conducted, one comparing districts on a county basis, the other comparing the variances on a statewide basis. Three conclusions came from an interpretation of the data in the study: all school districts should be required to levy the same tax rate: if the local levy is not required, then the tax rate needed to qualify for state aid should be low; and ancillary services and some educational services should be provided for and financed by a public, cooperative educational agency larger than a single school district if school districts are not consolidated. Further conclusions were drawn from a survey of the literature. Recommendations were based on these conclusions. (Author/IRT)

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ALTERNATE PLAN FOR FINANCING ARIZONA'S PUBLIC SCHOOLS

A Summary of a Doctoral Dissertation by William J. Horie

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FOREWORD

Each year since January, 1971, the Arizona State University College of Education's Bureau of Educational Research and Services collaborates with Arizona School Administrators, Inc., to identify, from among the dissertations produced in the Department of Educational Administration and Supervision, those topics which would be of greatest current interest to school administrators in Arizona.

Dissertations identified are then summarized in Research Reports on Educational Administration and distributed gratis to school administrators and Educational Administration faculty.

This report is particularly timely in view of the Arizona State Legislature's production of Senate Bill 1001, which represents the legislature's attempt at fiscal equalization. Dr. William J. Horie's reserach problem centered upon this basic issue of fiscal equalization through the development of an alternate finance plan for Arizona's public schools.

Other dissertations which have been summarized and published in the past are listed on the inside back cover. All dissertations from which the summaries are derived are available on interlibrary loan and may be obtained by any library upon application to the Director of Libraries, Arizona State University, Tempe, Arizona 85281. All dissertations are also available on microfilm from University Microfilm, Inc., Ann Arbor, Michigan.

ALTERNATE PLAN FOR FINANCING ARIZONA'S PUBLIC SCHOOLS

Introduction

The financing of the public schools has been receiving an increasing amount of attention each decade. In 1970-71, financing of schools came from three basic sources--federal (7 percent), state (41 percent) and local (52 percent).

The main source of local funds was a tax on real and personal property. This method of providing funds locally makes the amount of local funds available dependent on three factors: (1) the amount needed, (2) the assessed valuation of the district, and (3) the tax rate the local taxpayers were willing to assess themselves for the education program.

Over thirty states have had lawsuits challenging the use of the property tax as the main source of local funds for the support of schools. Federal, district, and state courts in at least five states--California, Texas, Minnesota, Michigan, and New Jersey--have ruled that the local property tax, as the base for local funds for education, was unconstitutional.

One of these cases, Rodriguez vs. San Antonio, was heard by the United States Supreme Court. In March, 1973, the Court ruled that the property tax was not illegal. The Court found that although there were cases of inequality in Texas, the cure rested with the Texas legislature, not the United States Supreme Court.

The purpose of this study was to find an equitable school finance plan that applied the same tax rate (or almost the same tax rate) for the same amount of revenues in all districts.

Determining the most equitable finance plan for the school districts in Arizona required developing several types of finance plans.

The seven financial plans developed for analysis are listed below:

PLAN 1

The 1971-72 Arizona finance system for public schools.

PLAN 2

An average school tax rate had to be levied to qualify for state aid. The tax rate was not required.

PLAN 3

The tax rate needed to raise $750 per Weighted Pupil Unit (WPU) in the key elementary and high school districts became the tax rate that had to be levied in other elementary and high school districts to qualify for state aid. The tax rate was not required.

PLAN 4

The average elementary and high school tax rate was required to be levied. Any surplus levy was turned in to the state.

PLAN 5

An average school tax rate was required to be levied. Any surplus was turned in to the state. Local leeway of 12 percent and 24 percent was allowed.

PLAN 6

An average school tax rate, adjusted for two other governmental agencies, had to be levied to qualify for state aid. The tax rate was not required.

PLAN 7

Six regional unified school districts, with a required tax rate equal to the rate needed in the richest districts to raise $750 per WPU had to be levied in the five other districts to qualify for state aid.

THE PROBLEM

The problem of this study was to find an equitable school finance plan that applied to the same tax rate in all districts which resulted in the smallest variance in expenditures per Weighted Pupil Unit (WPU) between districts in Arizona for the school year 1971-72.

To test for the most equitable plan, six null hypotheses were formulated. These six hypotheses each had the following introductory clause:

"There is no difference in the amount of funds available per Weighted Pupil Units between the 1971-72 Arizona financing system (Plan 1) and:"

H_1...an equalization grant that has a qualifying tax rate for state aid that is equal to the average school tax rate (Plan 2).

H_2...an equalization grant that has a qualifying tax rate that is equal to the school tax rate needed in the key district to provide $750 per WPU in local funds (Plan 3).

H_3...a power equalization grant that has a required school tax rate that is equal to the average 1971-72 school tax rate (Plan 4).

H_4...a power equalization grant that has a required school tax rate that is equal to the average 1971-72 school tax rate with a local leeway of $81.00 in revenues per WPU and $162.00 in revenues per WPU (Plan 5).

H_5...an equalization grant that has a qualifying tax rate for state aid that is equal to a tax rate adjusted for the average tax rate for schools plus two other local governmental agencies (community colleges and county government) (Plan 6).

H_6...an equalization grant for six regional unified school districts with a qualifying school tax rate for state aid that is equal to the school tax rate needed in the wealthiest unified school district to provide $750.00 per WPU from local funds (Plan 7).

Each hypothesis applied to the separate treatment of elementary and high school districts except H_6 which applied only to unified districts.

PROCEDURE

This study was a statewide case study, therefore all the operating school districts of Arizona were included.

Data were secured from the Annual Report of the Superintendent of Public Instruction to the Governor of Arizona for 1971-72 and from County Expenditures published by the Arizona Tax Research Association.

This study was designed to find an equitable method of financing education in the school districts of Arizona as they were organized in 1971-72.

To determine the most equitable finance plan, six financial models were developed for analysis and were compared to the financing plan of public schools in Arizona in 1971-72.

Transportation was included, but not evaluated. Transportation costs were assumed to be paid by the state in all plans except the 1971-72 Arizona financing plan.

All of the operating districts of Arizona were subjected to each of the seven finance plans and a dollar amount per WPU, including transportation, was computed for each district. From these dollar amounts per WPU, the mean and the standard deviation were computed for all the school districts under each plan.

The majority of courts had indicated in their decisions that the local tax rate and the amount of revenue available per pupil should not vary from district to district. Based on this concept, it was determined that an analysis of variance was the statistical treatment to use to discover which finance plan would produce the smallest variance from the mean and thus come within the spirit of the majority of court rulings.

Two analyses of variances were run on the data. The first analysis compared, on a county basis, the variance between the seven plans. The second analysis compared the variances between the seven plans on a state-wide basis.

FINDINGS

When subjected to the statistical treatment of analysis of variance, three of the null hypotheses were accepted and three of the null hypotheses were rejected.

The three hypotheses accepted were:

H_1 There was no difference between Plan 1 and Plan 2.

H_4 There was no difference between Plan 1 and Plan 5.

H_5 There was no difference between Plan 1 and Plan 6.

The three hypotheses rejected were:

H_2 There was no difference between Plan 1 and Plan 3.

H_3 There was no difference between Plan 1 and Plan 4.

H_6 There was no difference between Plan 1 and Plan 7.

The first analysis of variance was run on a county-by-plan relationship and gave an F-test of 3.137 for the between-county analysis and an F-test of 5.550 for the between-finance plan analysis. Both of these ratios are significant at the .001 level.

The second analysis of variance was run on a between-plan basis for the entire state. This analysis gave an F-test ratio of 9.469 which is also significant at the .001 level. The t-test was then applied to all combinations of Plan 1 and the following t-test ratios resulted:

Plan 1 compared to Plan 2	.925
Plan 1 compared to Plan 3	2.264
Plan 1 compared to Plan 4	2.410
Plan 1 compared to Plan 5	.593
Plan 1 compared to Plan 6	.836
Plan 1 compared to Plan 7	3.682

Three plans, numbers 3, 4, and 7 were significantly different at the .025 level. Plan 7 was significantly different at the .001 level.

The finance plan with the smallest variance was Plan 7. In the study, however, Plan 7 resulted in the highest tax rate. Plan 7 was based on the Strayer-Haig theory of financing that used the need of the richest district as the qualifying tax rate for all other districts. The concept of the Strayer-Haig theory is the presence of a wide range of wealth behind each child in various districts. The way the districts were reorganized for Plan 7, the wealth behind each child was more equalized than Strayer and Haig envisioned in developing their concept.

CONCLUSIONS

A number of conclusions manifested themselves in the findings and data of this study while certain conclusions came from a review of the literature on school finance.

Three specific conclusions came from an interpretation of the data in the study itself:

1. All school districts should be required to levy the same tax rate. The amount of the tax rate made no significant difference in the study, as the following information indicates:

	Elementary Tax Rate	High School Tax Rate
Plan 3	$ .33/$100	$ .48/$100
Plan 4	$2.66/$100	$1.81/$100
Plan 7	$6.64/$100 combined	

Plans 3 and 4 tested significantly different than Plan 1 at the .025 level. Plan 7 tested significantly different at the .001 level. The important feature was that all districts levied the same amount.

2. If the local levy is not required, then the tax rate needed to qualify for state aid should be low, such as the Strayer-Haig or Mort theories of finance. Plan 3 did not include a required tax levy and only two districts did not take part.

3. Ancillary services and some educational services should be provided for and financed by a public, cooperative educational agency larger than a single school district if school districts are not consolidated.

A six regional unified district plan had the smallest variance but resulted in the highest tax rate using the Strayer-Haig theory of educational finance. The researcher demonstrated how three lower tax rates would affect the local-state ratio of school support.

In addition to supporting the three conclusions that came from the analysis of the data, the review of the literature also suggested three other conclusions:

1. Some local leeway should be permitted. In light of the decisions reached in a vast majority of court cases, the concept of power-equalized local leeway should fulfill the concept of fiscal neutrality.

2. All the tax needs of individuals should be considered and adjustments made if the total tax rate for governmental agencies is too high.

3. Weighting, as mentioned in the literature, included program, grade level, lack of achievement, size of district, variations in cost of living, exceptionality, etc. It should be developed and used for the distribution of educational funds.

RECOMMENDATIONS

The following recommendations are made as a result of this study:

1. That the same tax rate be required in all school districts of the state.

2. That any surplus revenues received over and above the local district's allocation be returned to the state.

3. That some educational and ancillary services be provided and supported by an agency larger than a single school district.

This study revealed the need for future studies in the field of school finance. The researcher recommends four specific studies:

1. To replicate this study, but use "average daily membership" (ADM) instead of average daily attendance (ADA) to arrive at Weighted Pupil Units (WPU) of need.

2. To replicate this study's Plan 5 and analyze the variance for each option.

3. To do a study, based on the "overburden" tax needs concept, that will recognize all factors that influence the property taxpayers' rates in all districts.

IMPLICATIONS

This study carries an indirect implication for school administrators in that new school finance plans at the state level may bring about new organizational plans at the district level. Selected educational and ancillary services provided by an agency larger than a single school district may be a manifestation of this implication.

With regard to recent school finance action taken in the Arizona Legislature, a replication of this study utilizing data produced during the first year of implementation of this legislation would provide insight to its relative effectiveness.

The possibility that more equitable and constitutionally correct methods of financing public schools could be found, attests to the significance of this study.

When considering new tax plans, careful attention should be given to the needs of individuals. Important differences such as size of district, cost of living, and grade level must be taken into consideration. Some local leeway must be permitted.

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